

ABSTRACT OF THE DISCLOSURE

A block comprises physical addresses 0, 1, 2, 3. In an initial state, all the physical addresses 0, 1, 2, 3 are in an erase state. When data LA0, LA1, LA2, LA3 are written in the physical addresses 0, 1, 2, 3, count values are "1", respectively. In this manner, a write/erase operation is performed by a page (physical address) unit, and the count value of the physical address in which the data has been renewed is renewed. Finally, when a total of the count values in the block reaches an allowable value 32, refresh is performed, and states of memory cells in the block are initialized.